## WHAT IS CLAIMED IS:

1. A method for controlling a transmission control protocol window size in an asynchronous transfer mode network, wherein a window size is computed by using congestion information of a network during data transmission from a transmitting side ATM terminal to a receiving side ATM terminal, an explicit rate value in a resource management cell of an ATM level being used as the congestion information.

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2. The method according to claim 1, wherein the explicit rate value stores a minimum value of throughputs, which each node of the network can receive, in the network resource management cell.

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3. The method according to claim 1, wherein the window size is computed by the Expression wherein,

window size = MIN [credit, cwnd],

('credit' is an amount of data which the transmission control protocol receiving side can receive, 'cwnd' is a congestion window, cwnd = transmission control protocol throughput \* estimated\_RTT \* safety\_factor),

'estimated\_RTT' is an estimated round trip time of the packet,

'safety\_factor(s)' is a numerical value compensating for variations in network states and RTT,

TCP throughput = last\_ER \*  $\frac{48}{53}$  \*  $\frac{31}{32}$  \*  $\frac{TCP\_MSS}{TCP\_MSS + 56bytes}$ 

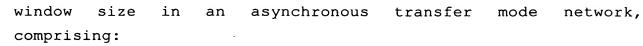
'last\_ER' is an ER value in the currently-received RM cell, and

'TCP\_MSS' is a maximum segment size of the transmission control protocol level.

35 4. A method for controlling a transmission control protocol

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- a step for an ATM transmitting terminal to receive a resource management cell;
- a step for transmitting an explicit rate value in the received resource management cell to a transmission control protocol level in the ATM transmitting terminal;
  - a step for setting a congestion window to be '1', when the explicit rate value is received;
- a step for computing the congestion window, when an acknowledgment signal is received from an ATM receiving terminal; and
  - a step for computing a window size, when the congestion window value is computed, and for transmitting a data to the ATM receiving terminal according to the computed size.
  - 5. The method according to claim 4, wherein the congestion window is computed by the Expression wherein,

congestion window = transmission control protocol
throughput \* estimated\_RTT \* safety factor

- ('estimated\_RTT' is an estimated round trip time of the packet, and 'safety\_factor(s)' is a numerical value compensating for variations in network states and RTT).
- 25 6. The method according to claim 5, wherein the transmission control protocol throughput is computed by the Expression wherein,

TCP throughput = last\_ER \* 
$$\frac{48}{53}$$
 \*  $\frac{31}{32}$  \*  $\frac{TCP\_MSS}{TCP\_MSS + 56bytes}$ 

('last\_ER' is an ER value in the currently-received RM
cell, and

'TCP\_MSS' is a maximum segment size of the transmission control protocol level).

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7. The method according to claim 4, wherein the window size is computed by the Expression wherein,

window size = MIN [credit, cwnd],

('credit' is an amount of data which the transmission control protocol receiving side can receive, and 'cwnd' is a congestion window).